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Form PTO-1449

(REV. 7-92)

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Attorney's Docket Number

NOXTECH-01B

Serial No. 09/211,879

INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

(Use several sheets if necessary)

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GROUP 1700



Applicant(s): Sudduth, et al.

Filing Date: December 14, 1998

Group Art Unit: 1764

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL			DOC	UMENT	NUMBI	ER		DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Jew	5	4	4	0	8	7	6	8/1995	Bayliss et al.	60	274	
100	5	1	4	7	5	1	6	9/1992	Mathur et al.	204	177	
300	5	2	4	0	5	7	5	8/1993	Mathua et al.	204	177	
Ju	5	4	5	8	7	4	8	10/1995	Breault et al.	204	177	
Ja	4	8	6	7	9	5	3	09/89	Riekert et al.	423	239	02/86
94	4	7 .	1	9	0	9	4	01/ 88	Riekert et al.	423	239	08/85
IN	4	6	7	8	6	4	3	07/ 87	Fetzer	422	175	02/85
Tw	4	6	0	2	6	7	3	07/ 86	Michelfelder et al.	165	7	10/84
JW	5	5	1	0	0	9	2	04/96	Mansour, et al.	423	239.1	
Jan	5	1	3	9	7	5	4	08/92	Luftglass et al.	423	235	

FOREIGN PATENT DOCUMENTS

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JW		Mizuno, et al.; "APPLICATION OF A CORONA TECHNOLOGY IN THE REDUCTION OF GREENHOUSE GASES AND OTHER GASEOUS POLLUTANTS"; Non-Thermal Plasma Techniques for Pollution Control-Part B: Electron Beam and Electrical Discharge; Springer-Verlag, Heidelberg 1993 pgs. 165-185
Jul		Gentile, et al.; "MICROSTREAMER INITIATED ADVECTION IN DIELECTRIC BARRIER DISCHARGES FOR PLASMA REMEDIATION OF NxOy: SINGLE AND MULTIPLE STREAMERS"; Proceedings of the 1995 Diesel Engine Emissions Reduction Workshop, Univ. of California, San Diego July 24-27; pgs. V45-V56
Jal		Chess, et al; "PLASMA VERSUS THERMAL EFFECTS IN FLUE GAS NOx REDUCTION USING AMMONIA RADICAL INJECTION"; Journal of Air & Waste Management Association, August 1995, vol. 45, pgs. 627-632
JW		Vogtlin, et al.; "PULSED CORONA DISCHARGE FOR REMOVAL OF NOx FROM FLUE GAS"; Non-Thermal Plasma Techniques for Pollution Control-Part B: Electron Beam and Electrical Discharge; Springer-Verlag, Heidelberg 1993 pgs. 187-197
JW		Fujii, et al.; "SIMULTANEOUS REMOVAL OF NOx, COx, SOx AND SOOT N DIESEL ENGINE EXHAUST"; Non-Thermal Plasma Techniques for Pollution Control-Part B: Electron Beam and Electrical Discharge; Springer-Verlag, Heidelberg 1993 pgs. 257-279
gw	,	Wallman, et al.; "NONTHERMAL AFTERTREATMENT OF DIESEL ENGINE EXHAUST"; Proceedings of the 1995 Diesel Engine Emissions Reduction Workshop, Univ. of California, San Diego July 24-27/pgs. V33-V39
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DATE CONSIDERED

June 1999

*EXAMINER:

Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.





Form PTO-1449 (REV. 7-92) INFORMATION DISCLOSURE STATEMENT

U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

Attorney's Docket Number

NOXTECH-01B

Serial No. 09/211,879

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GROUP 1700



Applicant(s): Sudduth, et al.

Filing Date: December 14, 1998

Group Art Unit: 1764

U.S. PATENT DOCUMENTS

EXAMINER INIȚIAL			DOC	UMENT	NUMB	ER		DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Jev	5	0	5	7	2	9	3	10/91	Epperly et al.	423	235	
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FOREIGN PATENT DOCUMENTS

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JW	Penetrante, et al.; "NOx REDUCTION BY COMPACT ELECTRON BEAM PROCESSING"; Proceedings of the 1995 Diesel Engine Emissions Reduction Workshop, Univ. of California, San Diego July 24-27; pgs. IV75-IV85
Jav	Fanick, et al.; "REDUCTION OF DIESEL NOx/PARTICULATE EMISSIONS USING A NON-THERMAL PLASMA"; Proceedings of the 1995 Diesel Engine Emissions Reduction Workshop, Univ. of California, San Diego July 24-27; pgs. V57-V67
900	Lyon "Controlling Nitrogen Oxides Emissions by a Noncatalytic Process"; Combust. Sci. and Tech., Vol. 25, No.3, 1987, pages 231-236.
Jan	Lyon and Hardy "Discovery and Development of Thermal DeNOx Process"; Ind. Eng. Chem. Fundam. Vol. 25, No.1, 1986, pages 19-24.
Dar	Caton and Siebers "Comparison of Nitric Oxide Removal by Cyanuric Acid and by Ammonia"; Combust. Sci. and Tech, Vol. 65, 1989, pages 277-293.
70	Dean, Hardy and Lyon "Kinetics and Mechanism of NH3 Oxidation"; Nineteenth Symposium on Combustion/The Combustion Institute, 1982, Pages 97-105.
EXAMINER ///	withy Vanoy Date considered 14 June 1999
	itial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with a compunication to applicant.



U.S. DEPARTMENT OF COMMERCE Serial No. 09/211,879 Form PTO-1449 Attorney's Docket Number (REV. 7-92) Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT NOXTECH-01B BY APPLICANT RECEIVED if necessary Applicant(s): Sudduth, et al. MAY 12 1999

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL			DOC	UMENT	NUMB	ER		DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
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JW	4	8	7	7	5	9	1	10/89	Epperly et al.	423	235	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JW JW	Hurst "Improved Thermal DeNOx Process Verified by Field Testing"; Exxon Technology, Presented at Air Pollution Control Assn., Annual Meeting in San Francisco, California on 27 June 1984, pages 1-13.
	Olsen J.C. "Unit Processes and Principles of Chemical Engineering" D. Van Nostrand Co., New York, pages 1-3, July 1932 (Patent Office library date).
JW	Perry et al. "Chemical Engineers' Handbook," 5th Edition, 1973, McGraw-Hill Book Co., U.S.A. pages 22-4 to 22-7, 22-136 to 22-144. ISBN 0-07-049478-9.
JW	Levenspiel O. "Chemical Reaction Engineering," 2nd Edition, 1972, John Wiley & Sons, New York, pages 56-60, 149-157, 226-231, 1972. ISBN 0-471-53016-6.
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